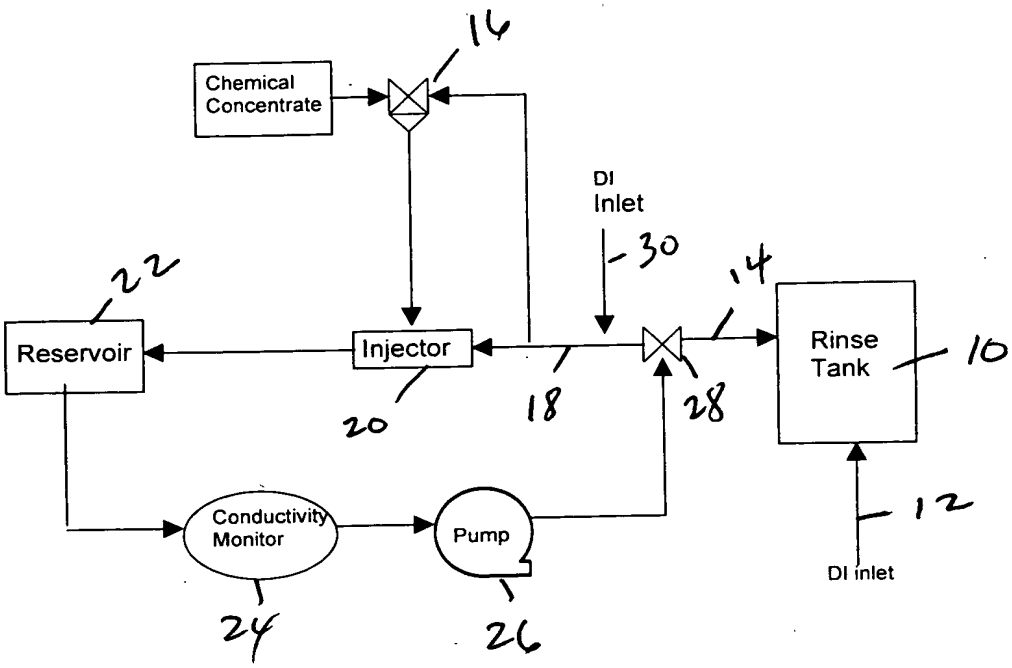

Chemical Concentrate
16
DI Inlet
30
14
22
Reservoir
Injector
Rinse Tank
10
20
18
28
12
DI inlet
Conductivity Monitor
Pump
24
26

FIGURE 1

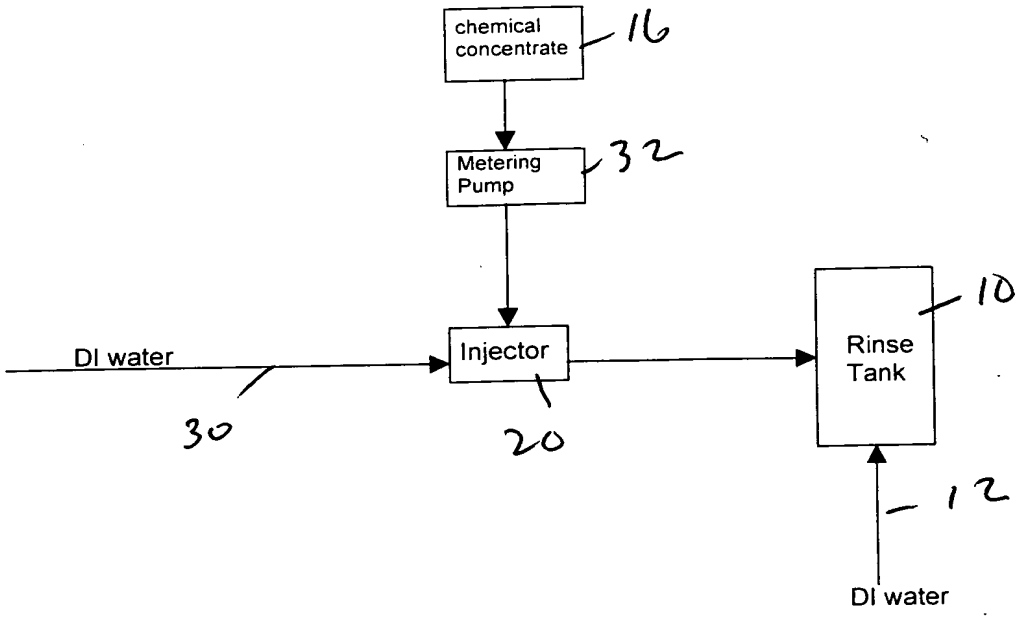

chemical concentrate
16
Metering Pump
32
DI water
30
Injector
20
Rinse Tank
10
12
DI water

FIGURE 2

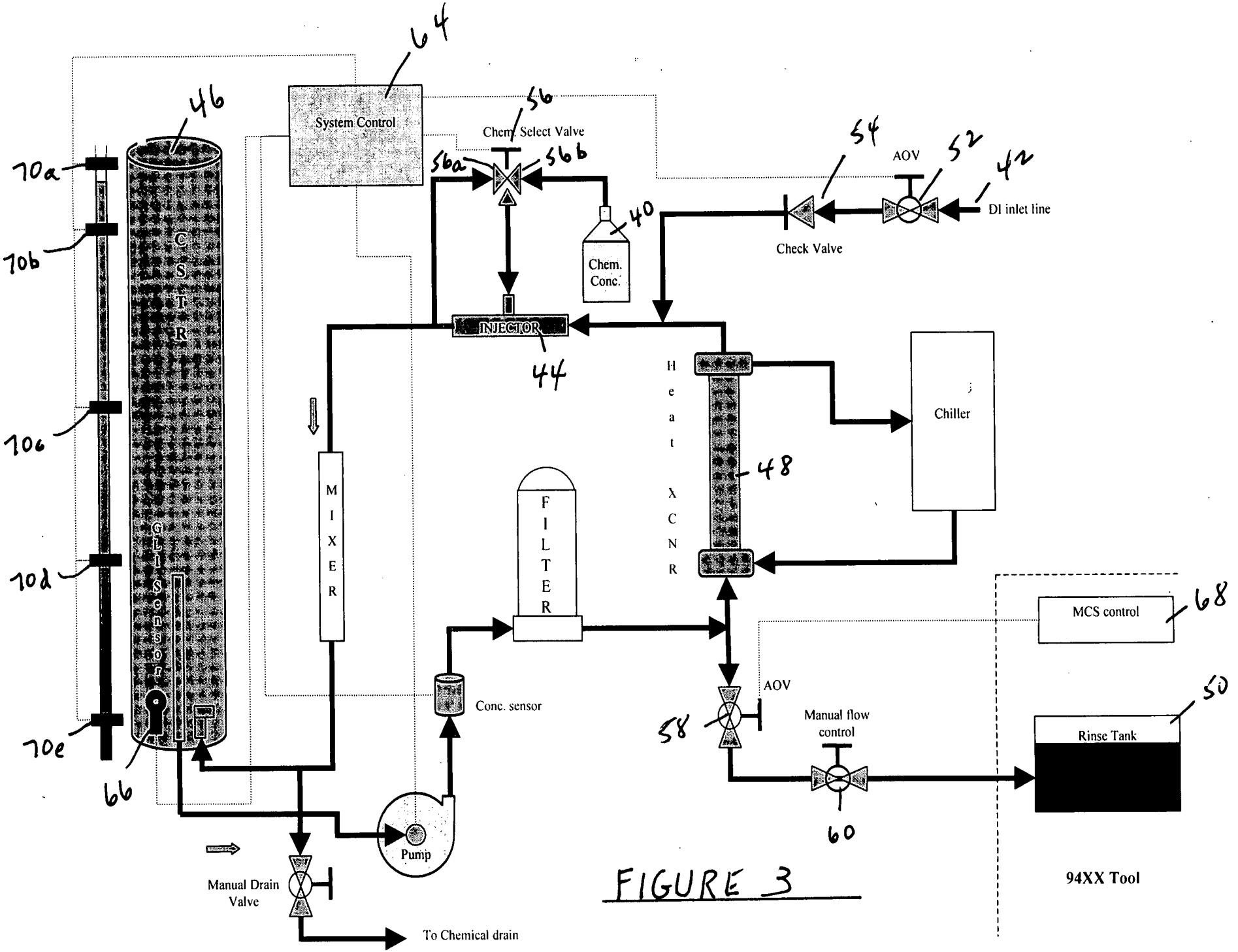

64
System Control
46
56
Chem. Select Valve
56a
56b
54
AOV
52
42
DI inlet line
40
Chem. Conc.
Check Valve
70a
70b
70c
70d
70e
66
C S T R
GLI Sensor
INJECTOR
44
H e a t X C N R
48
Chiller
M I X E R
F I L T E R
MCS control
68
Conc. sensor
AOV
58
Manual flow control
50
Rinse Tank
60
Pump
Manual Drain Valve
To Chemical drain
94XX Tool

FIGURE 3

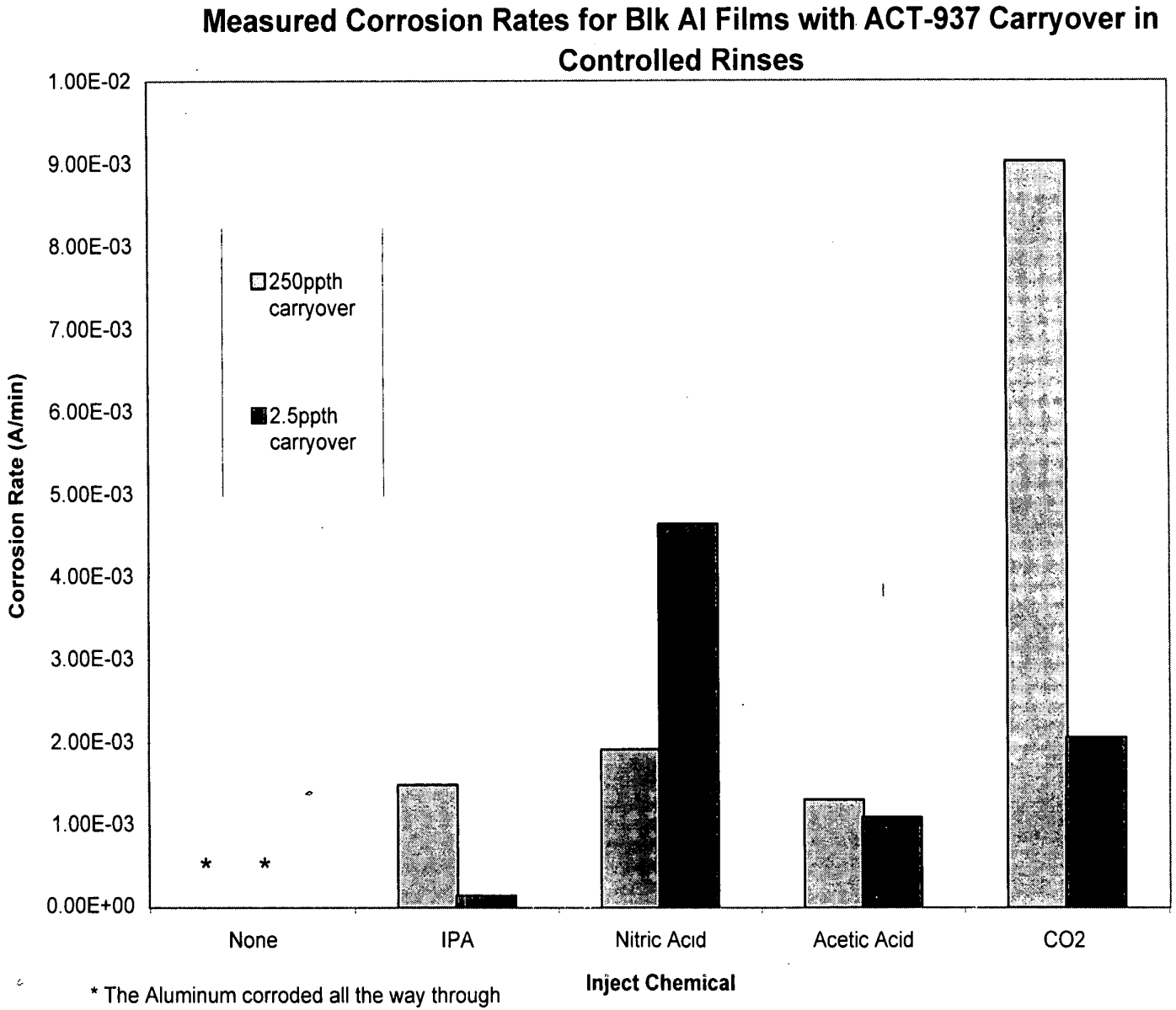


FIGURE 4

Measured Corrosion Rates for Blk TiN with ACT-937 Carryover in Controlled Rinses

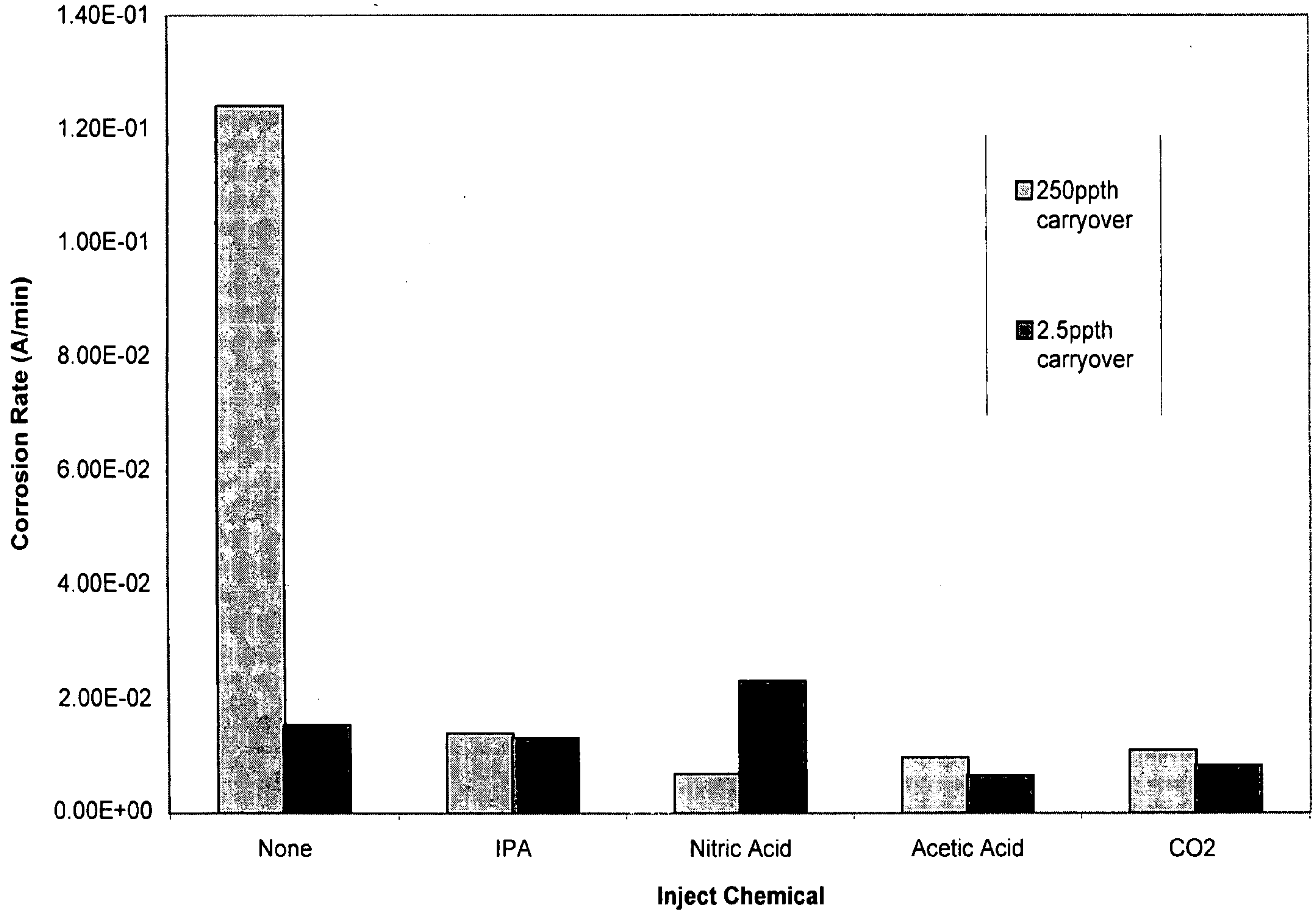


FIGURE 5

09108270 .022002

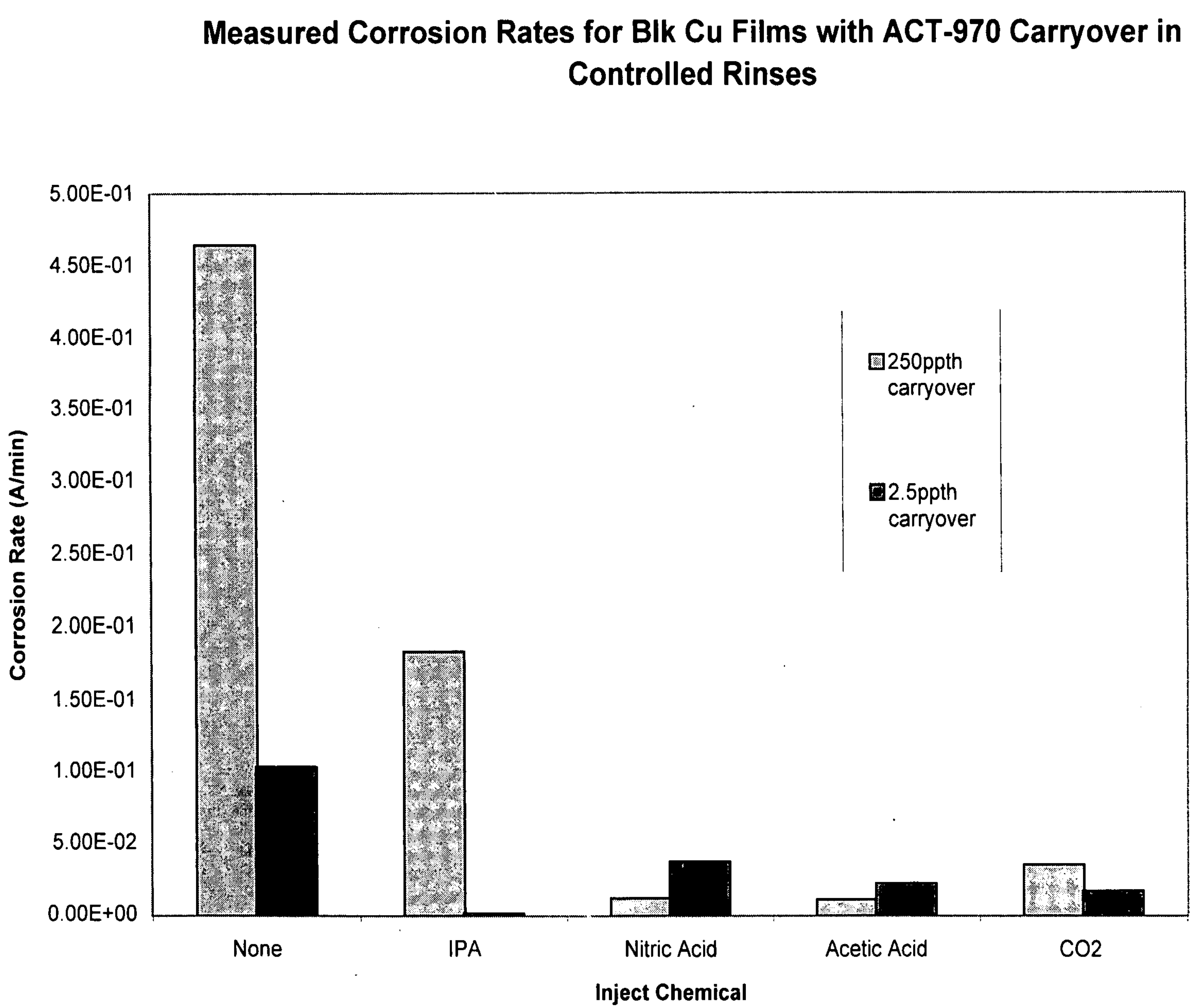


FIGURE 6

09109270 .022002

Chemical Inject Process Control For An Overflow Rinse Tank
(3 different setpoints)

Note: Initial Conentration of HNO_3 was 70wt%, tank concentrations were calculated using acid/base titrations

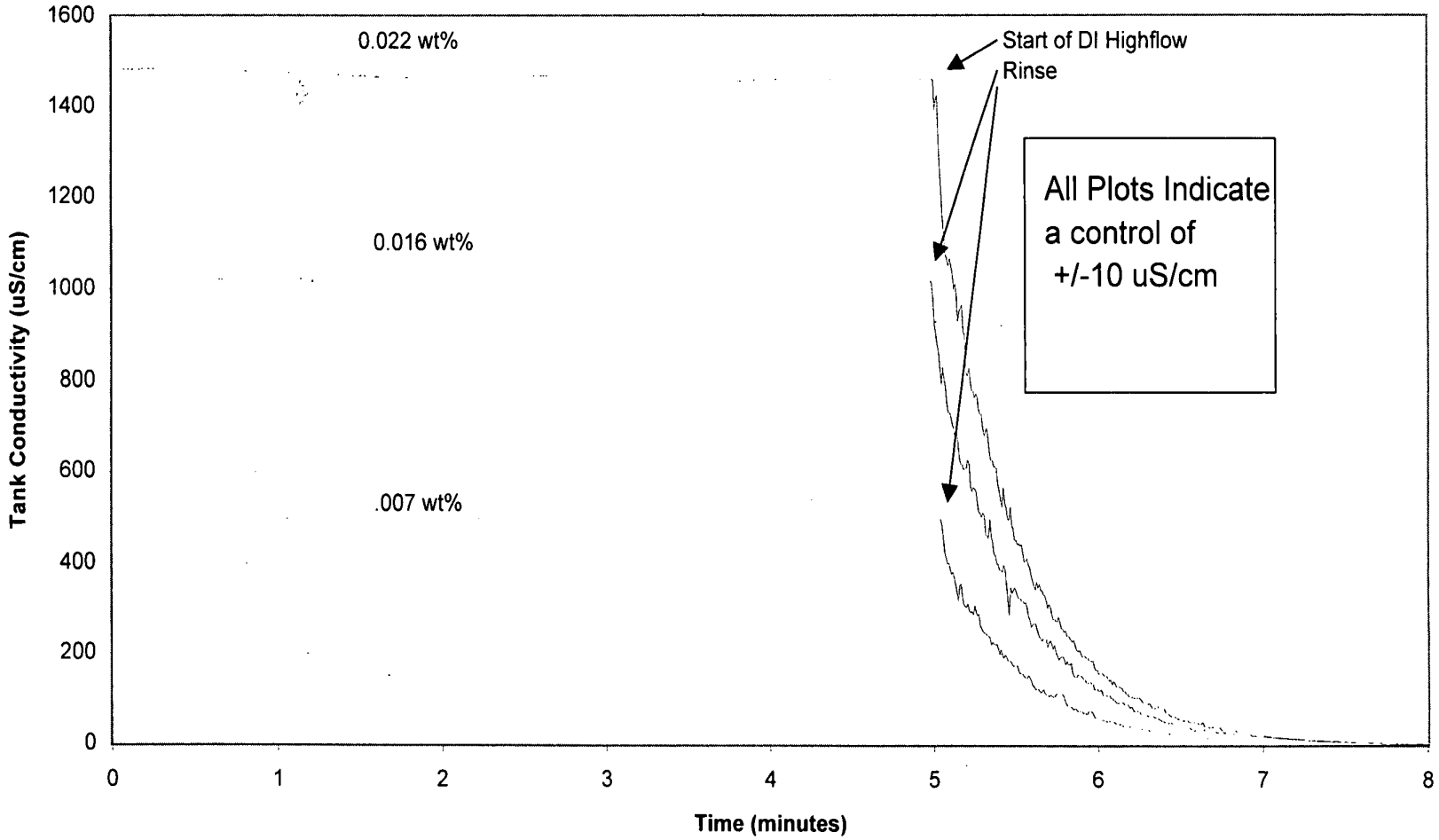


FIGURE 7

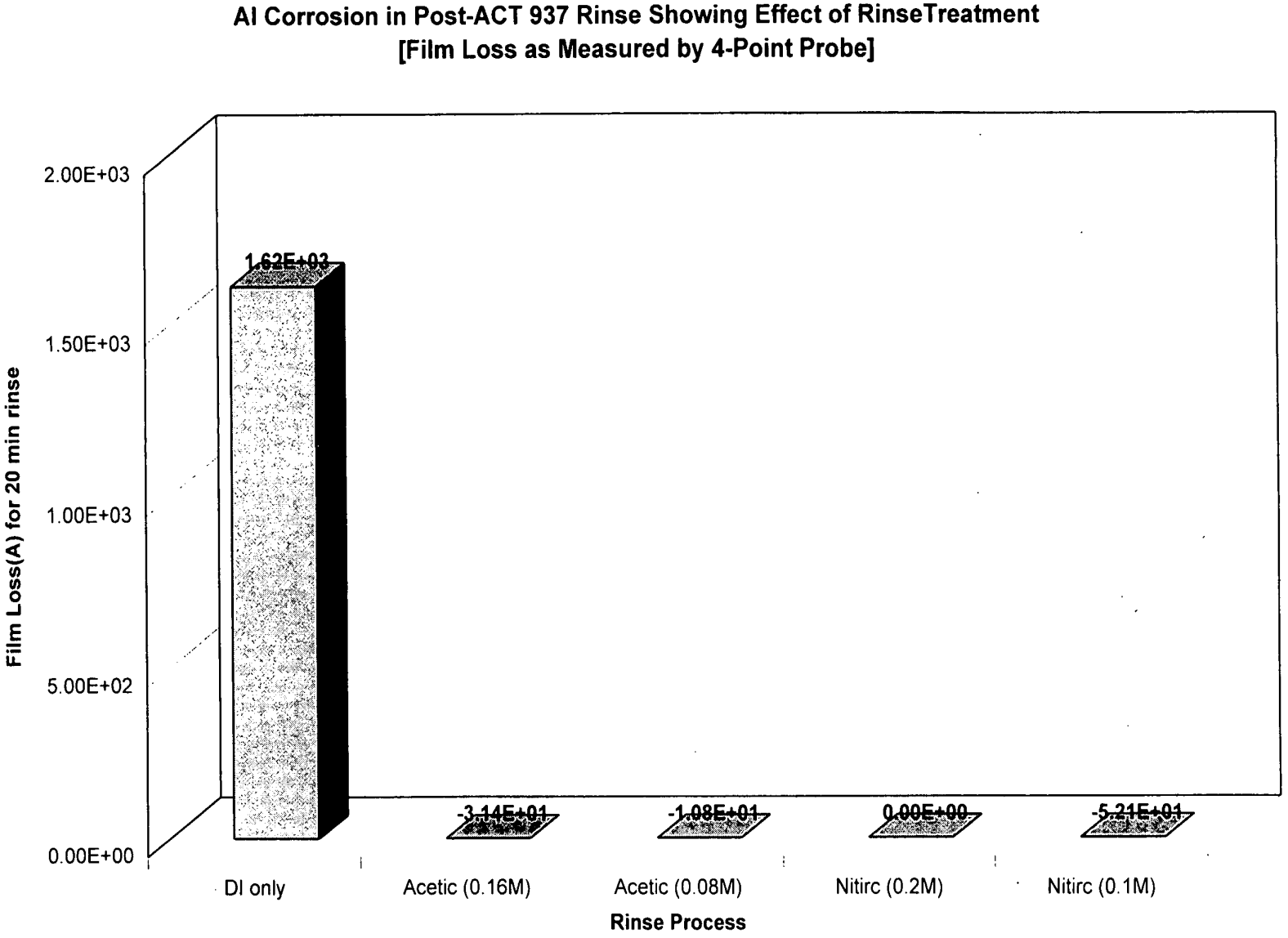


FIGURE 8

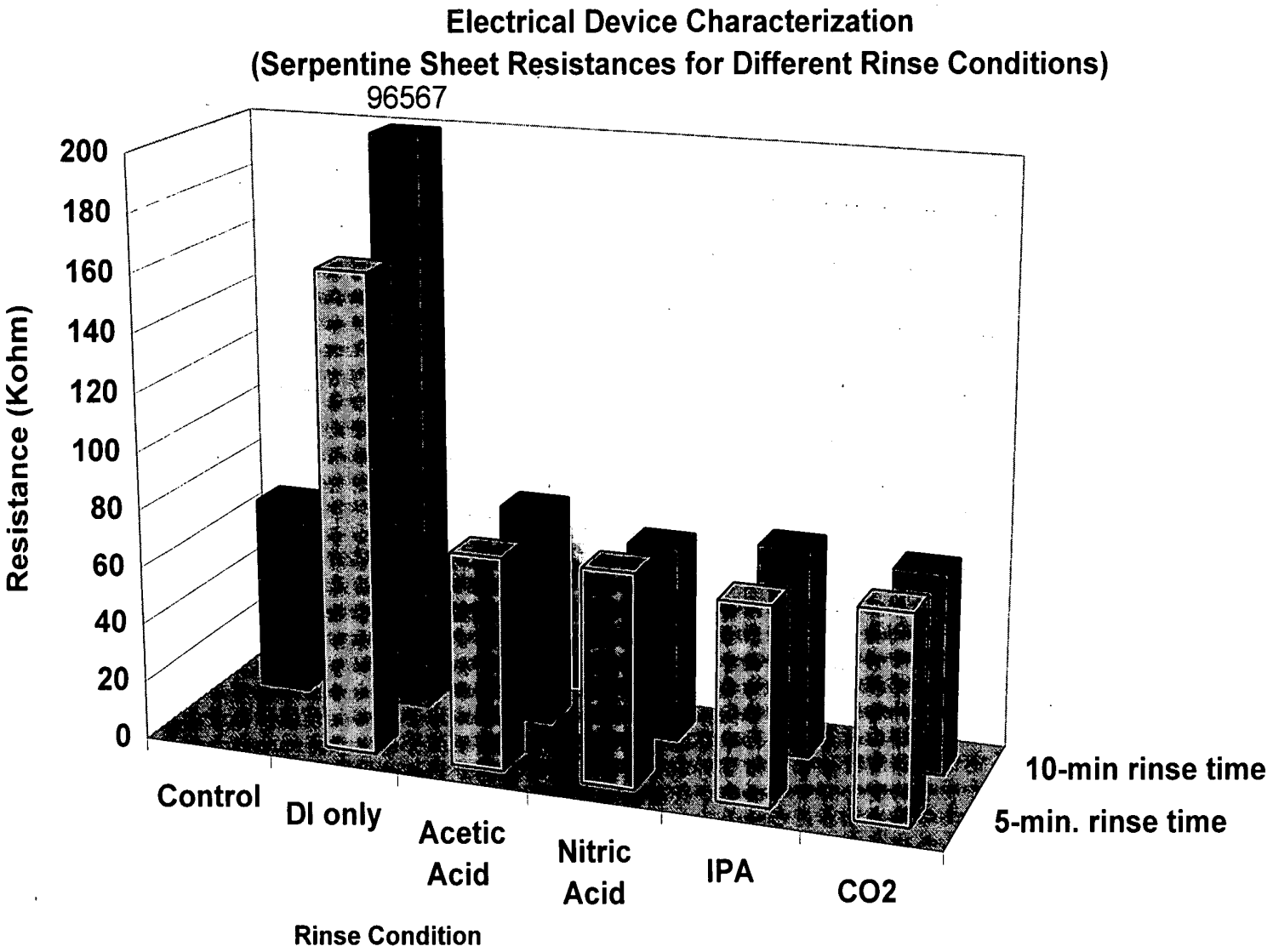
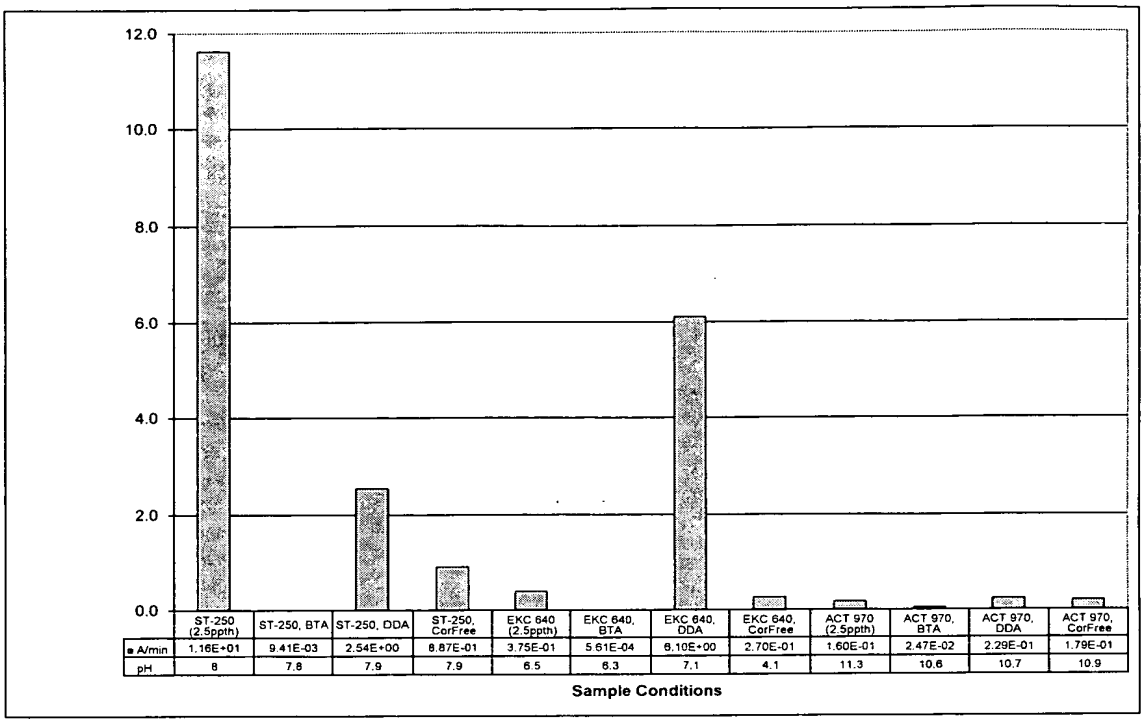


FIGURE 9



	ST-250 (2.5ppth)	ST-250, BTA	ST-250, DDA	ST-250, CorFree	EKC 640 (2.5ppth)	EKC 640, BTA	EKC 640, DDA	EKC 640, CorFree	ACT 970 (2.5ppth)	ACT 970, BTA	ACT 970, DDA	ACT 970, CorFree
e A/min	1.16E+01	9.41E-03	2.54E+00	8.87E-01	3.75E-01	5.61E-04	6.10E+00	2.70E-01	1.60E-01	2.47E-02	2.29E-01	1.79E-01
pH	8	7.8	7.9	7.9	6.5	6.3	7.1	4.1	11.3	10.6	10.7	10.9

BTA = benzotriazole
DDA = dodecanedioic acid
CorFree® = DuPont proprietary product containing a mixture of undecanedioic, dodecanedioic and sebacid acids

FIGURE 10

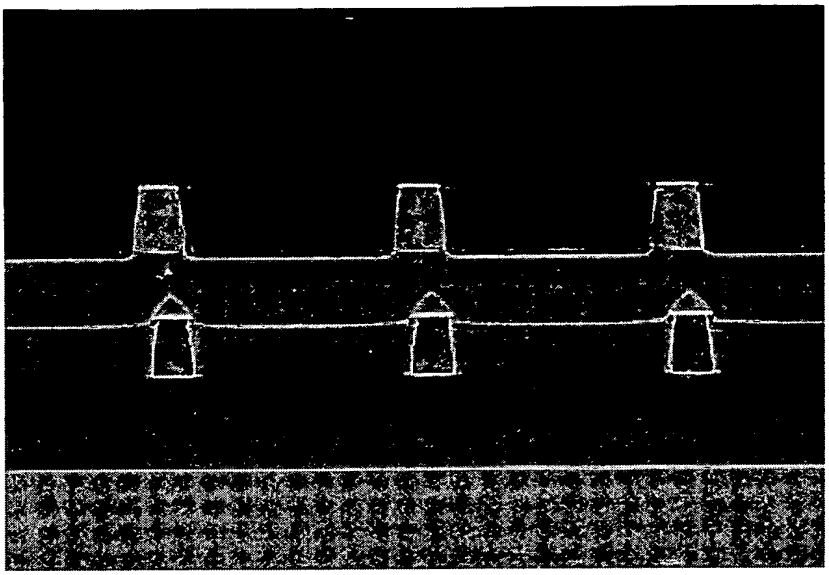


FIGURE 16

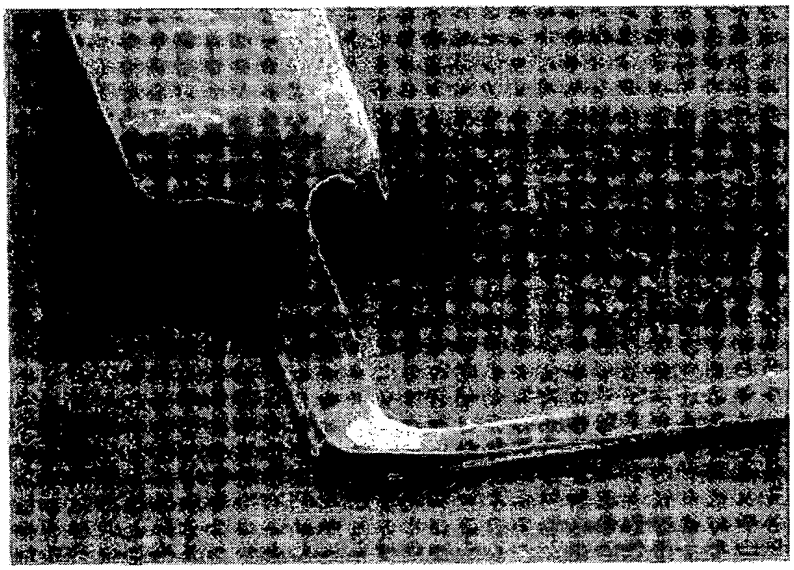


FIGURE 11

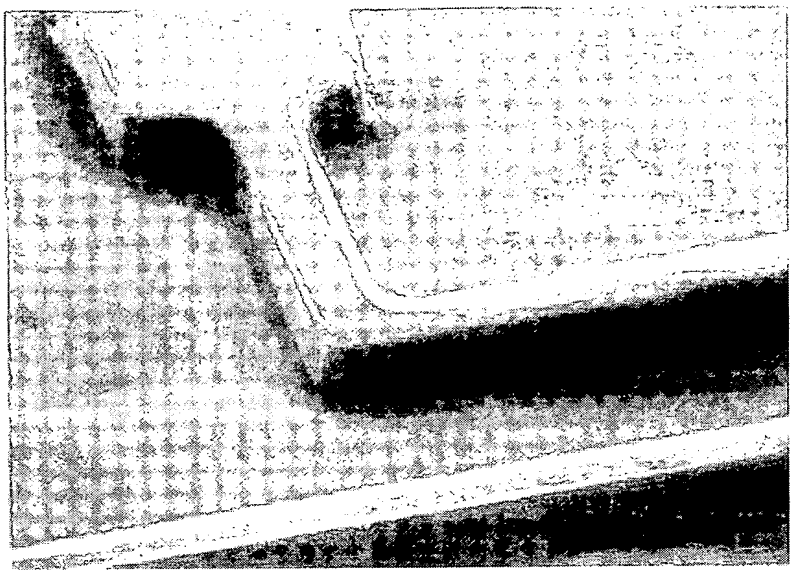


FIGURE 12

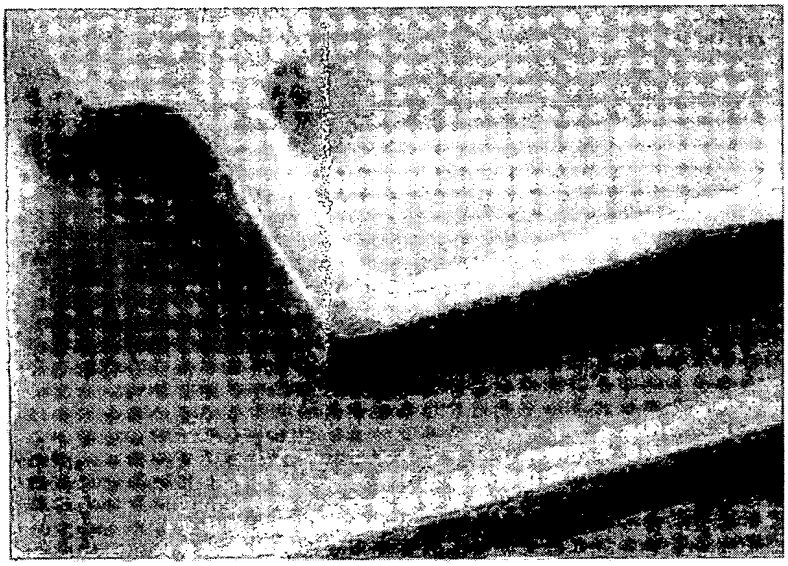


FIGURE 13

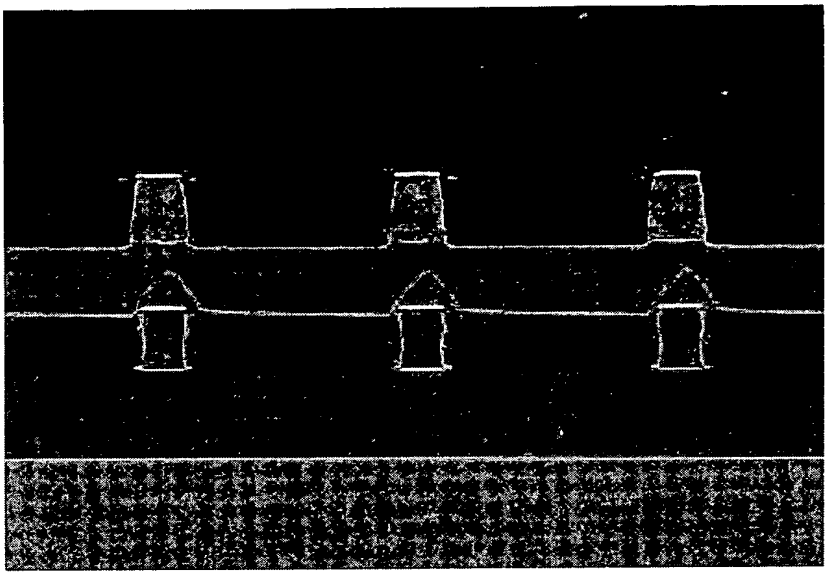


FIGURE 14

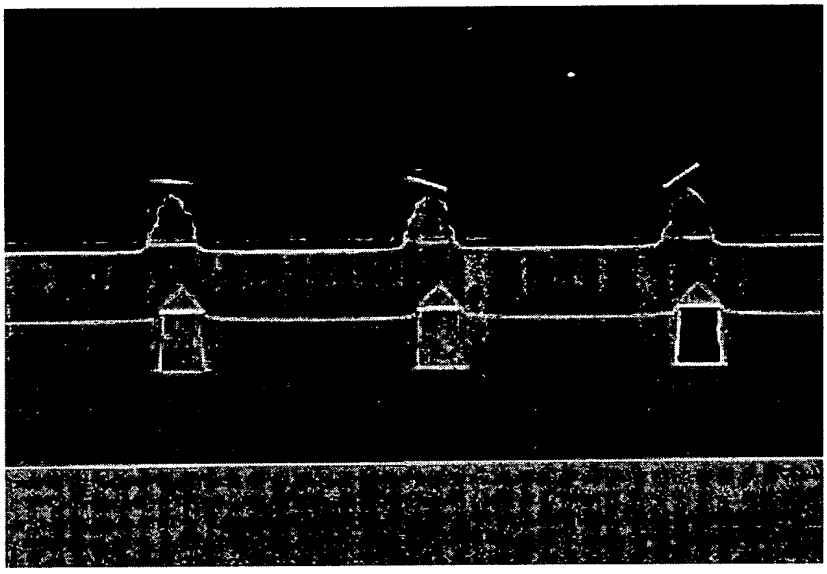


FIGURE 15